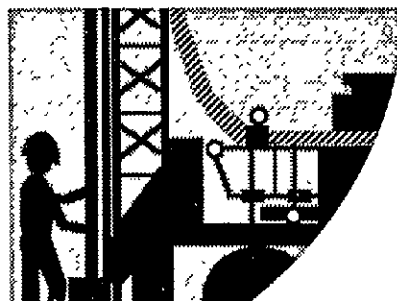
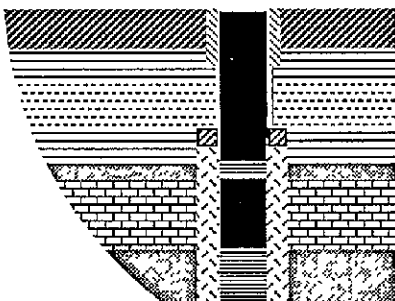
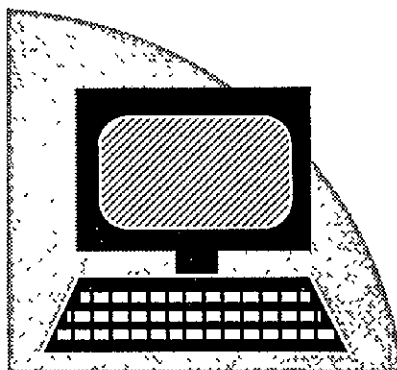
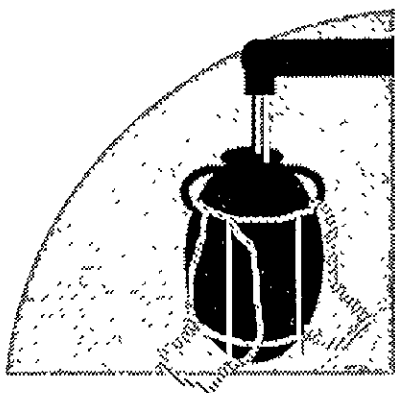




SOMALI DEMOCRATIC REPUBLIC
MINISTRY OF MINERALS AND WATER RESOURCES
WATER DEVELOPMENT AGENCY



Comprehensive Groundwater Development Project



Maps

End of Project Report

LOUIS BERGER INTERNATIONAL, Inc.



ROSCOE MOSS Co.



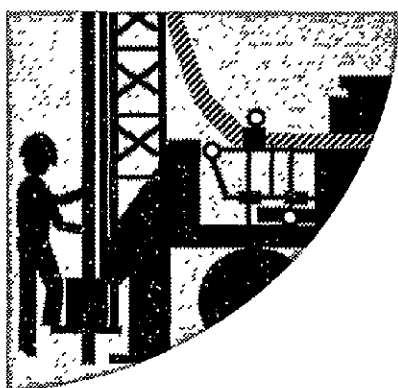
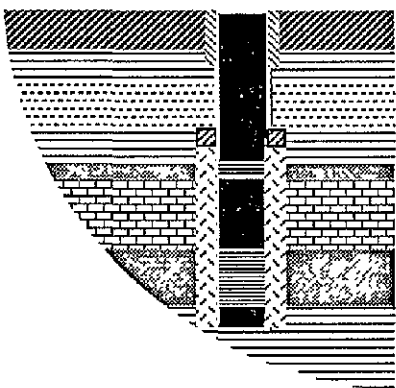
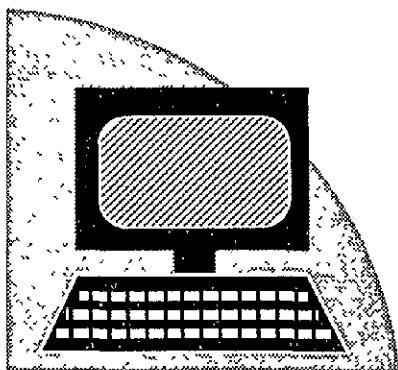
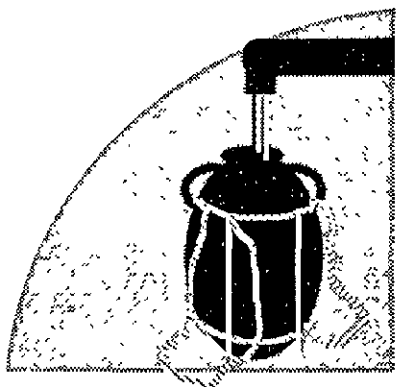


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MINISTRY OF MINERALS AND WATER RESOURCES
WATER DEVELOPMENT AGENCY



Comprehensive Groundwater Development Project



Volume III

Maps

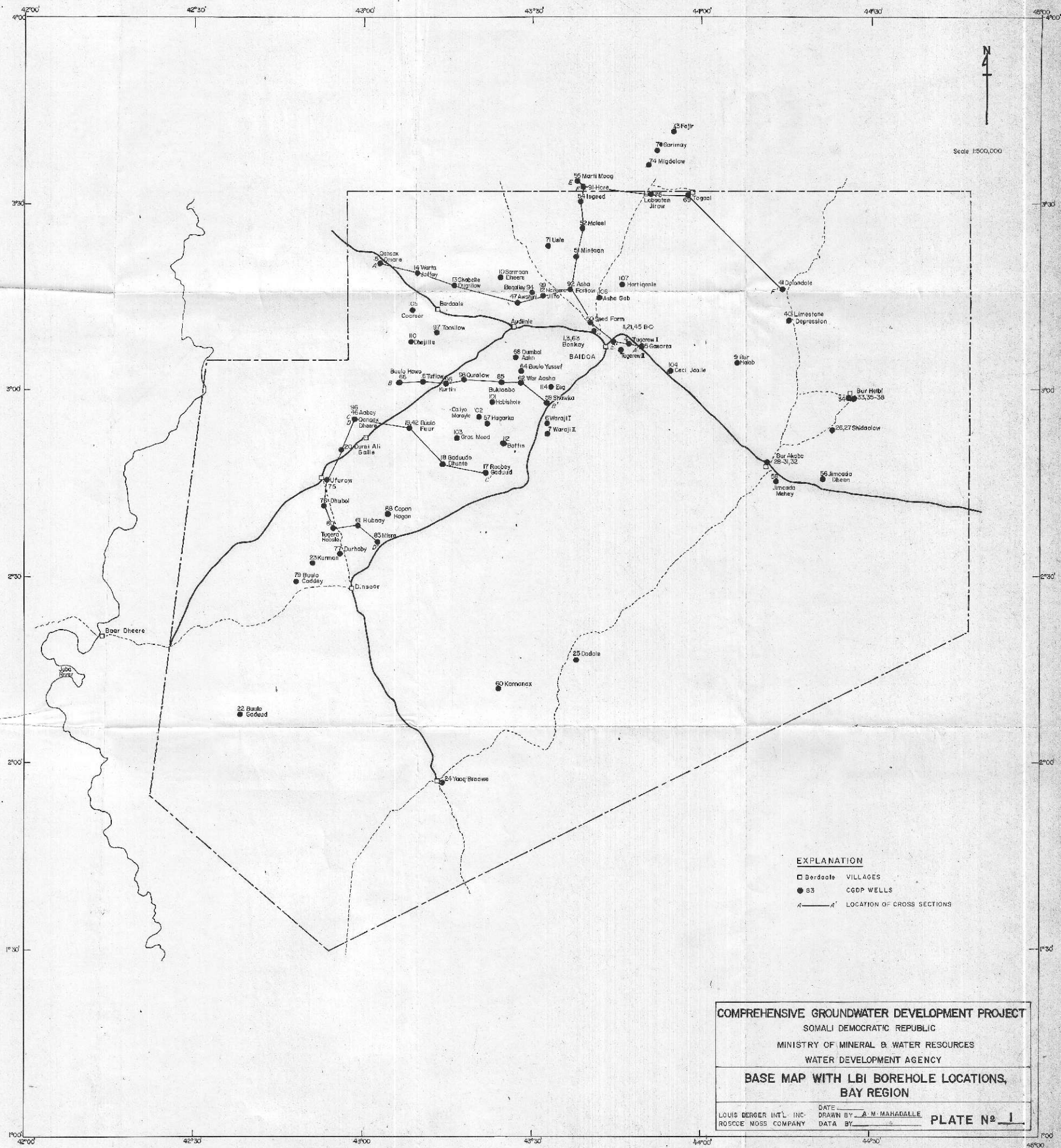
End of Project Report

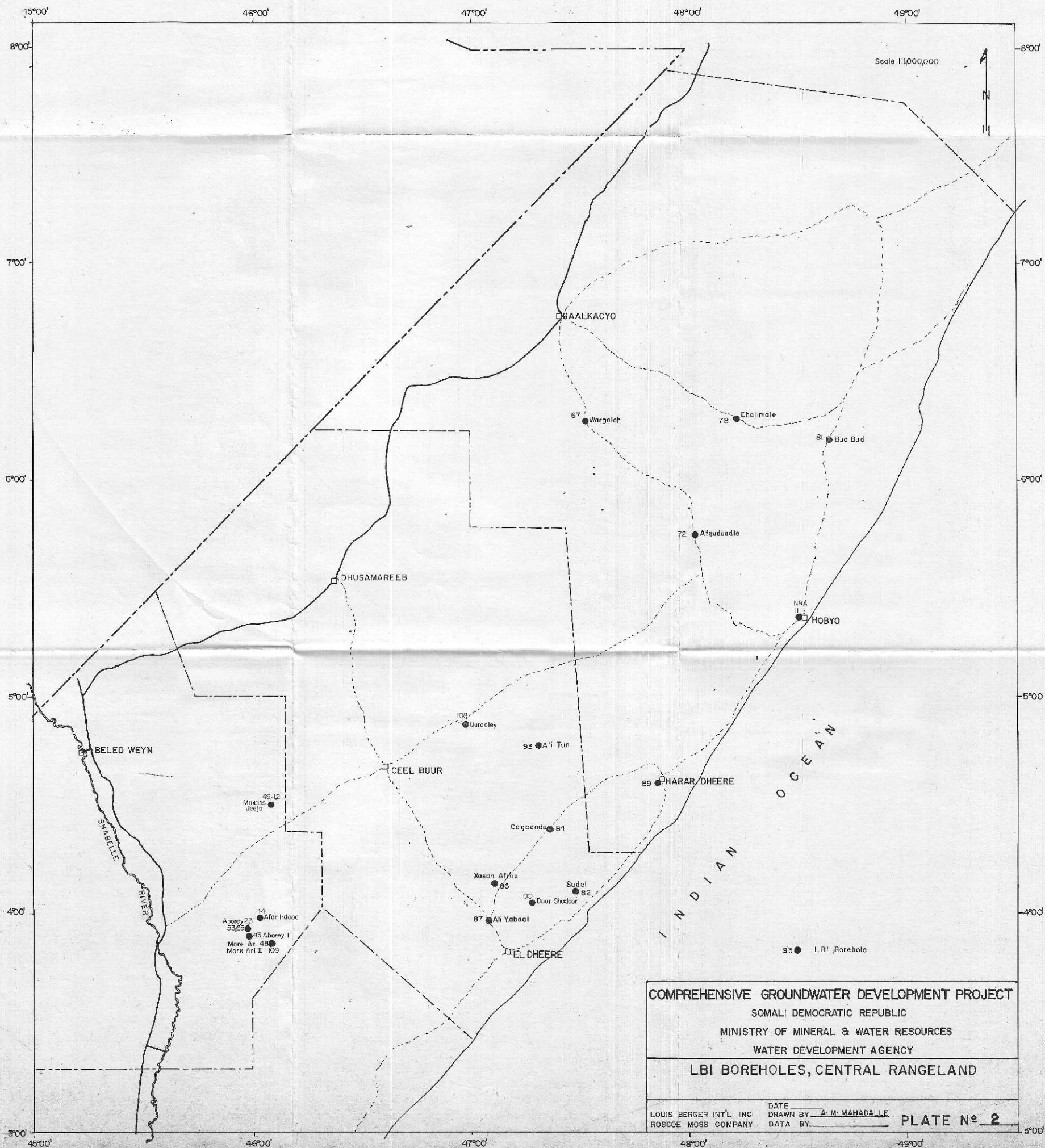
LOUIS BERGER INTERNATIONAL, Inc.



ROSCOE MOSS Co.







COMPREHENSIVE GROUNDWATER DEVELOPMENT PROJECT	
SOMALI DEMOCRATIC REPUBLIC	
MINISTRY OF MINERAL & WATER RESOURCES	
WATER DEVELOPMENT AGENCY	
LBI BOREHOLES, CENTRAL RANGELAND	
LOUIS BERGER INT'L. INC. ROSCOE MOSS COMPANY	DATE _____ DRAWN BY <u>A. M. MAHADALLE</u> DATA BY _____
PLATE N° 2	

EXPLANATION

Quaternary	Qal	Riverine alluvial sediments
Tertiary and Quaternary	N2-Qeol+m	Aeolian sand, friable sandstone and reef dependent of the coastal zone
	N-Qeol	Proglacial alluvial riverine sediments
Tertiary	N1-m	Mudagh - Merca Suite
	B-Pg-N	Basalt
Cretaceous	Cr mg	Main Gypsum, Mao Subsuite, Gabra Harre Suite
Jurassic	Jg bs	Busul Subsuite, Gabra Harre Suite
	Jg ug	Uegit Suite
	Jg an	Anole Suite
	Jg bd	Iscia Balda Suite
Precambrian	Jl	Fragmental limestone, Siltstone, and sandstone
	Pom	Metamorphic and intrusive rocks, undifferentiated

--- Fault dashed where inferred

--- Bay Region boundary

42°00'

43°00'

44°00'

45°00'

42°00'

2000'

2000'

42°00'

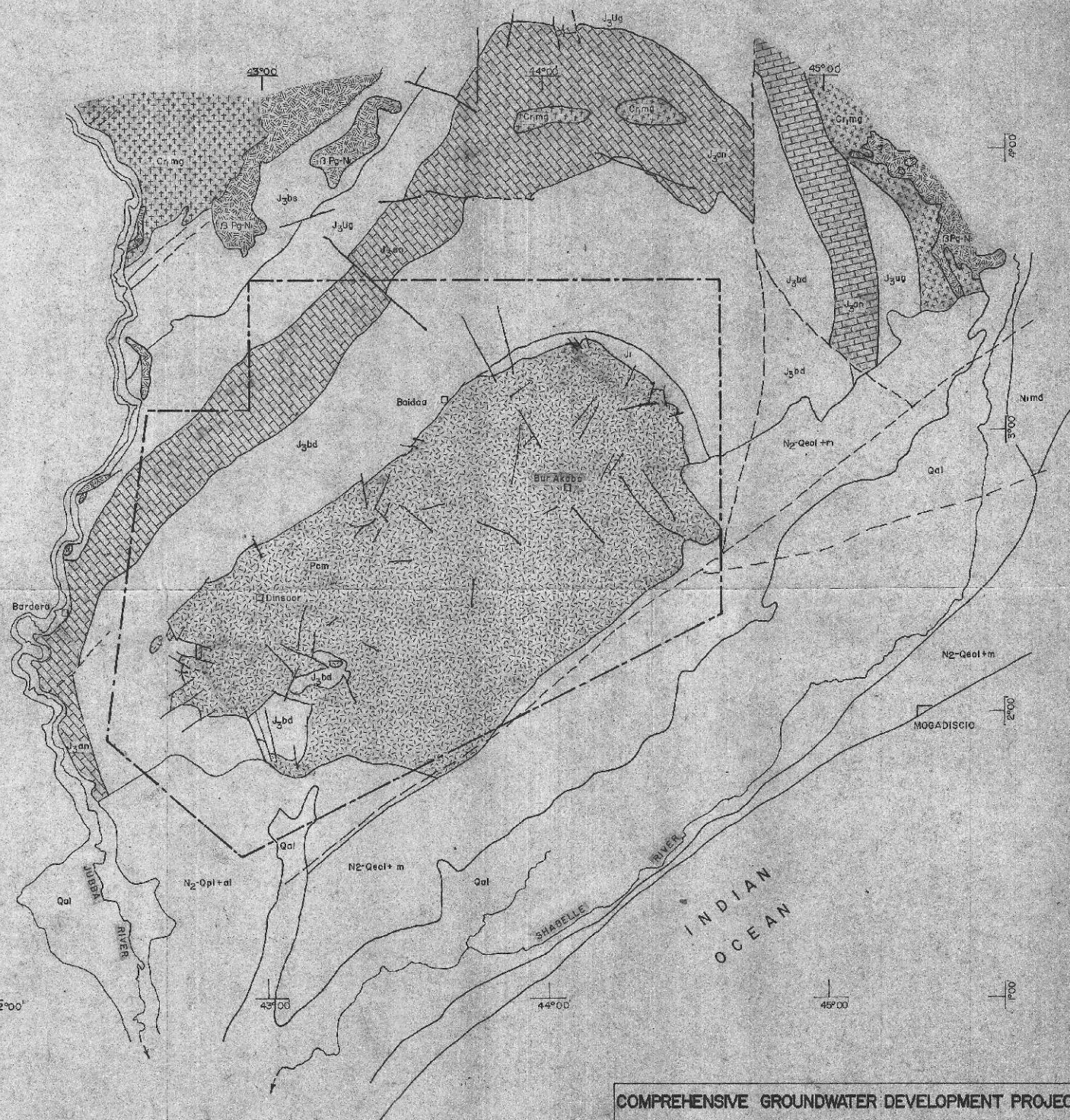
43°00'

44°00'

45°00'

N

0 10 20 30 40 50 60 70 80 km
Scale 1:1,000,000



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GEOLOGIC MAP OF BAY REGION

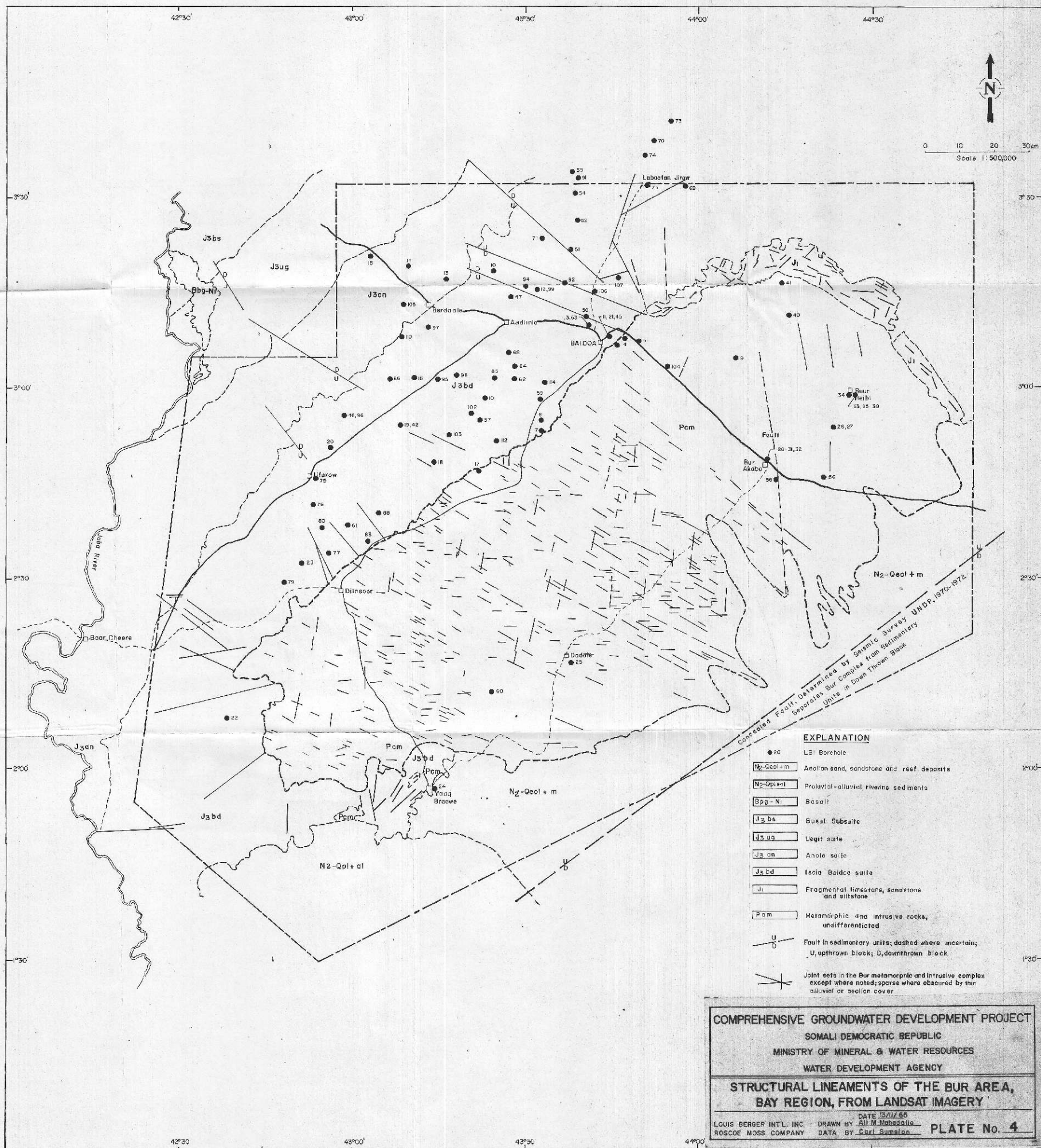
ADAPTED FROM UNDP MINERAL & GROUNDWATER SURVEY PROJECT MAPS

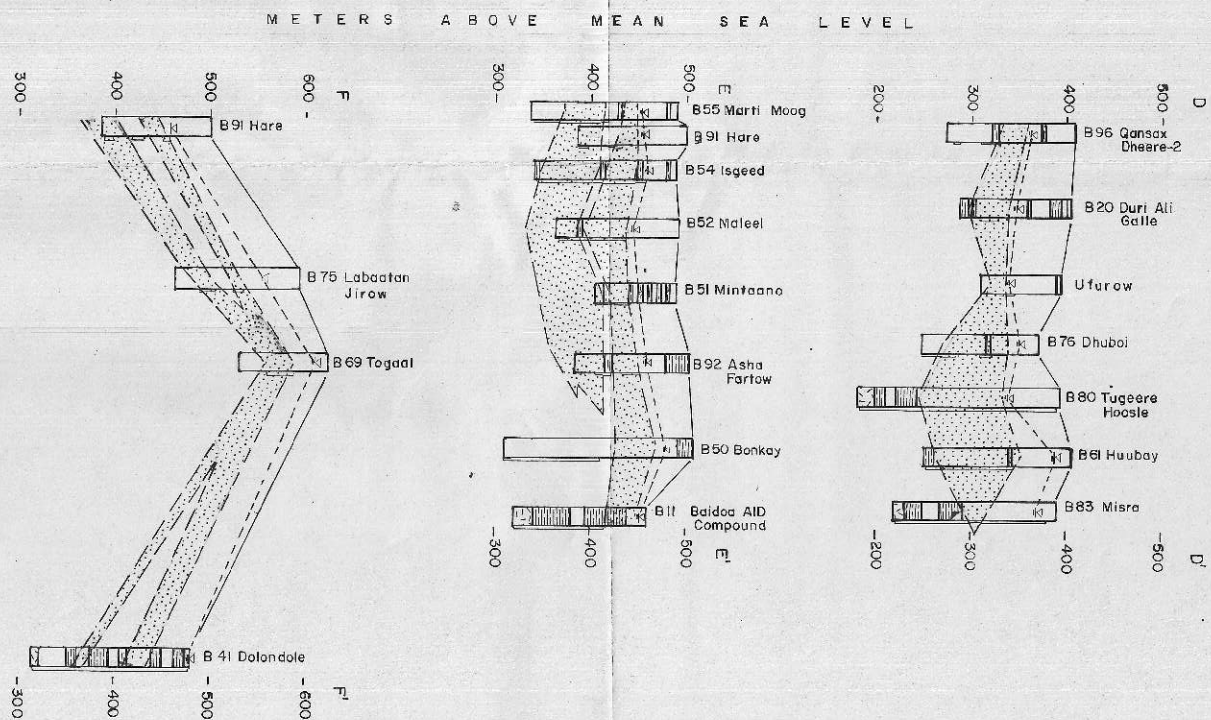
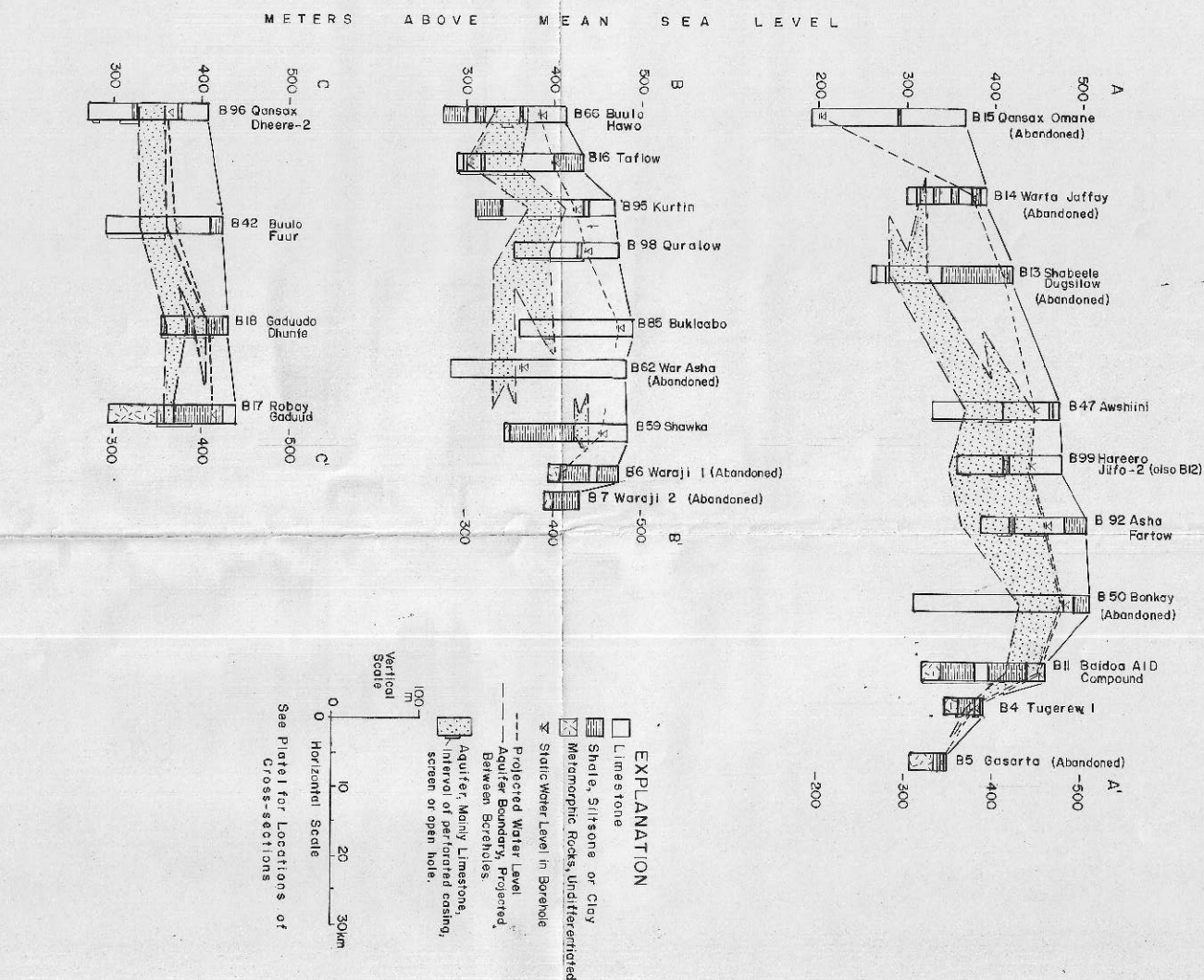
(PHASES 2&3) 1970-1972

LOUIS BERGER INT'L. INC.
ROSCOE MOSS COMPANY

DATE
DRAWN BY A. M. MAHADALIE
DATA BY

PLATE No. 3





COMPREHENSIVE GROUNDWATER DEVELOPMENT PROJECT

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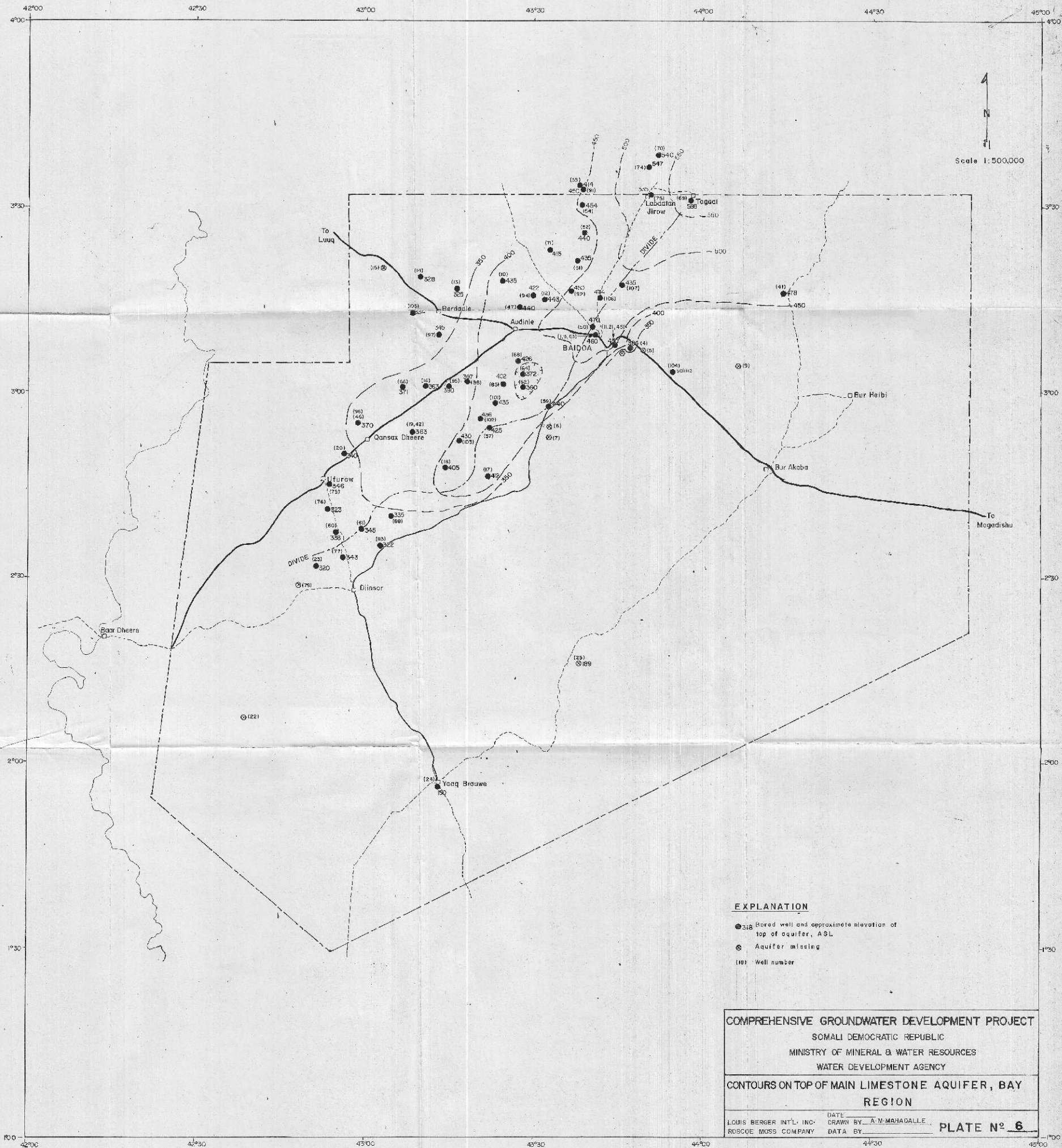
MINISTRY OF MINERAL & WATER RESOURCES

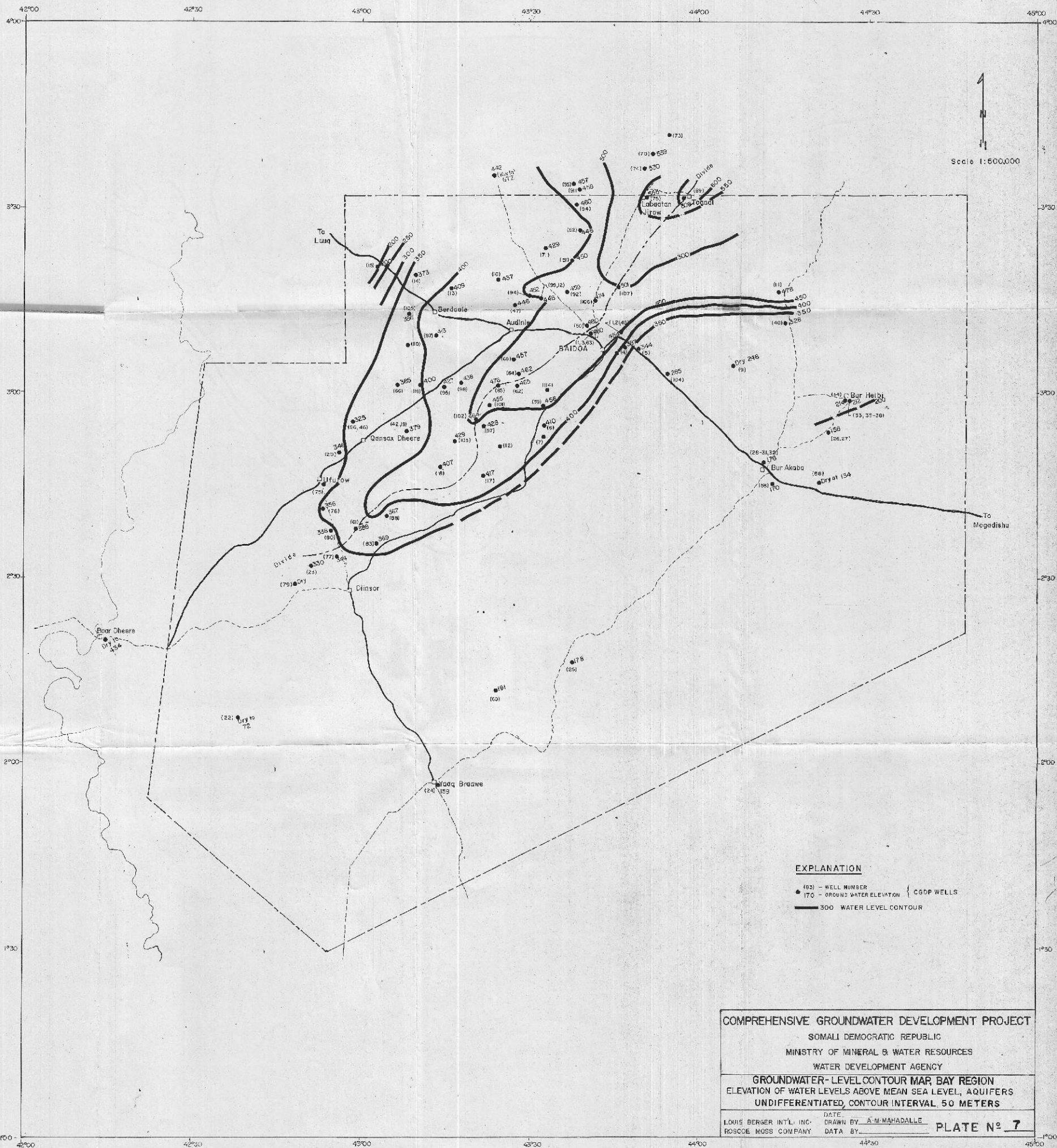
WATER DEVELOPMENT AGENCY

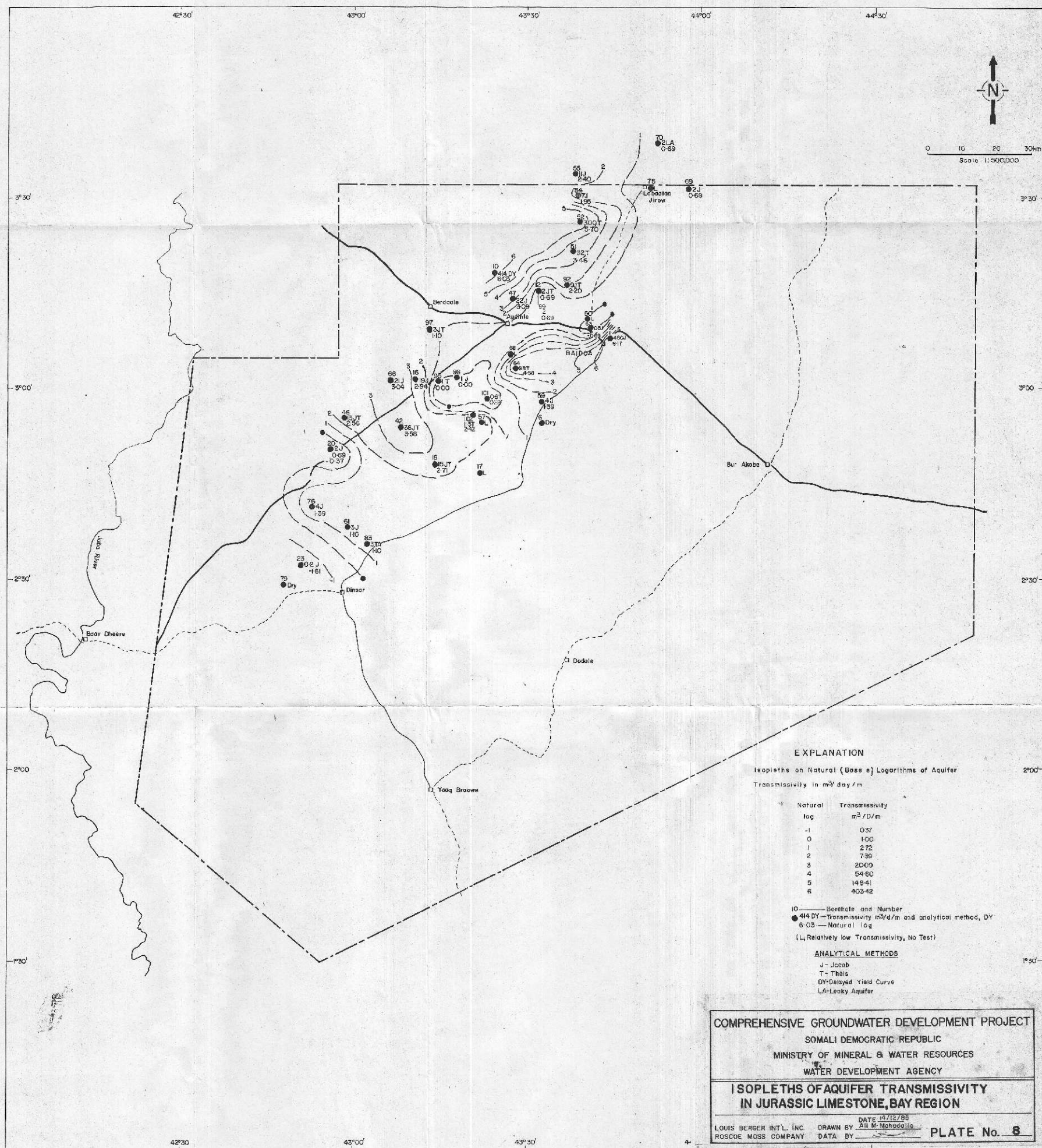
DIAGRAMMATIC CROSS-SECTIONS THROUGH SELECTED BOREHOLES, BAY REGION

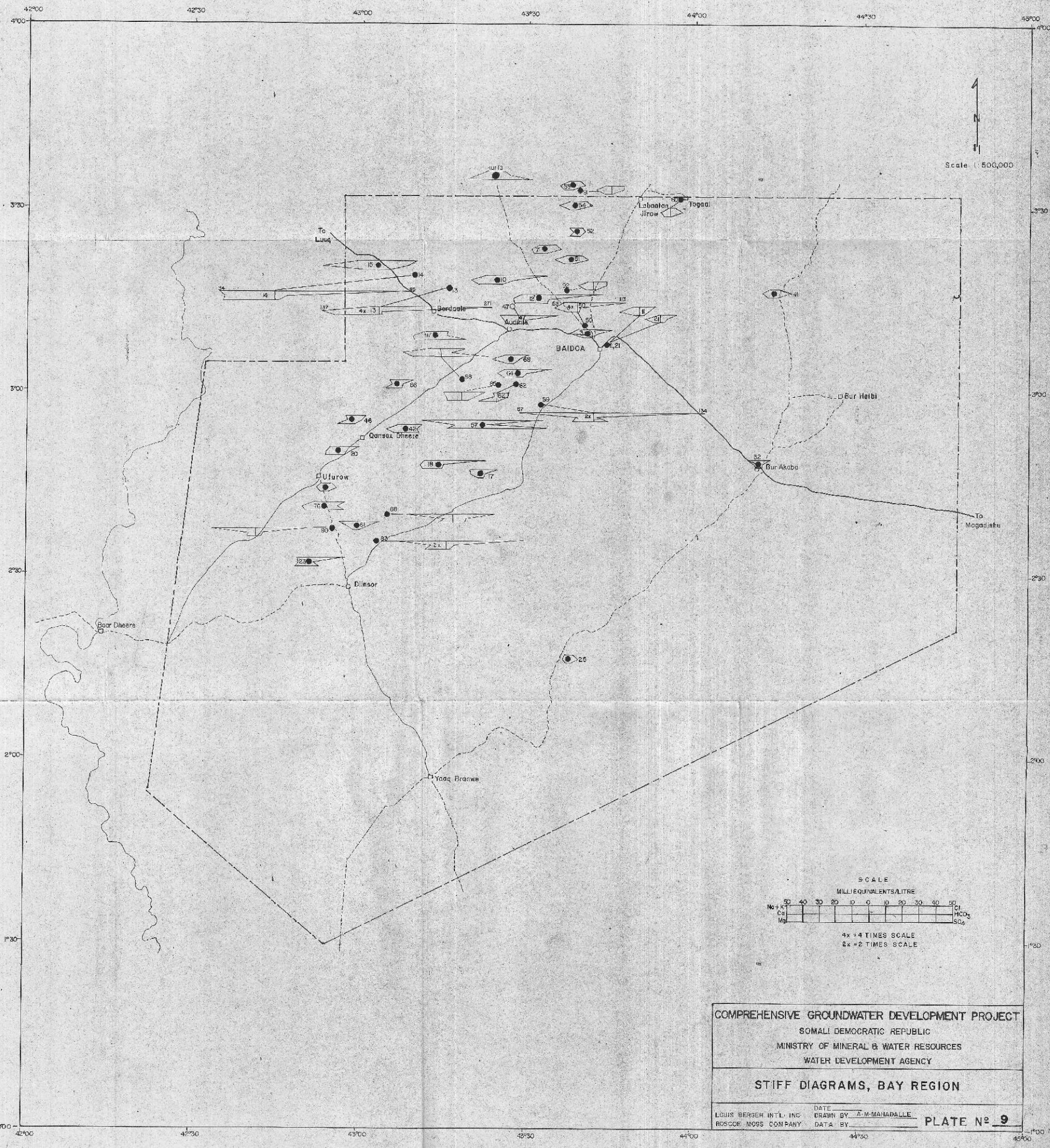
LOUIS BERGER INT'L. INC. DRAWN BY A.H.M. MORGADALE
ROSCOE MOSS COMPANY DATA BY

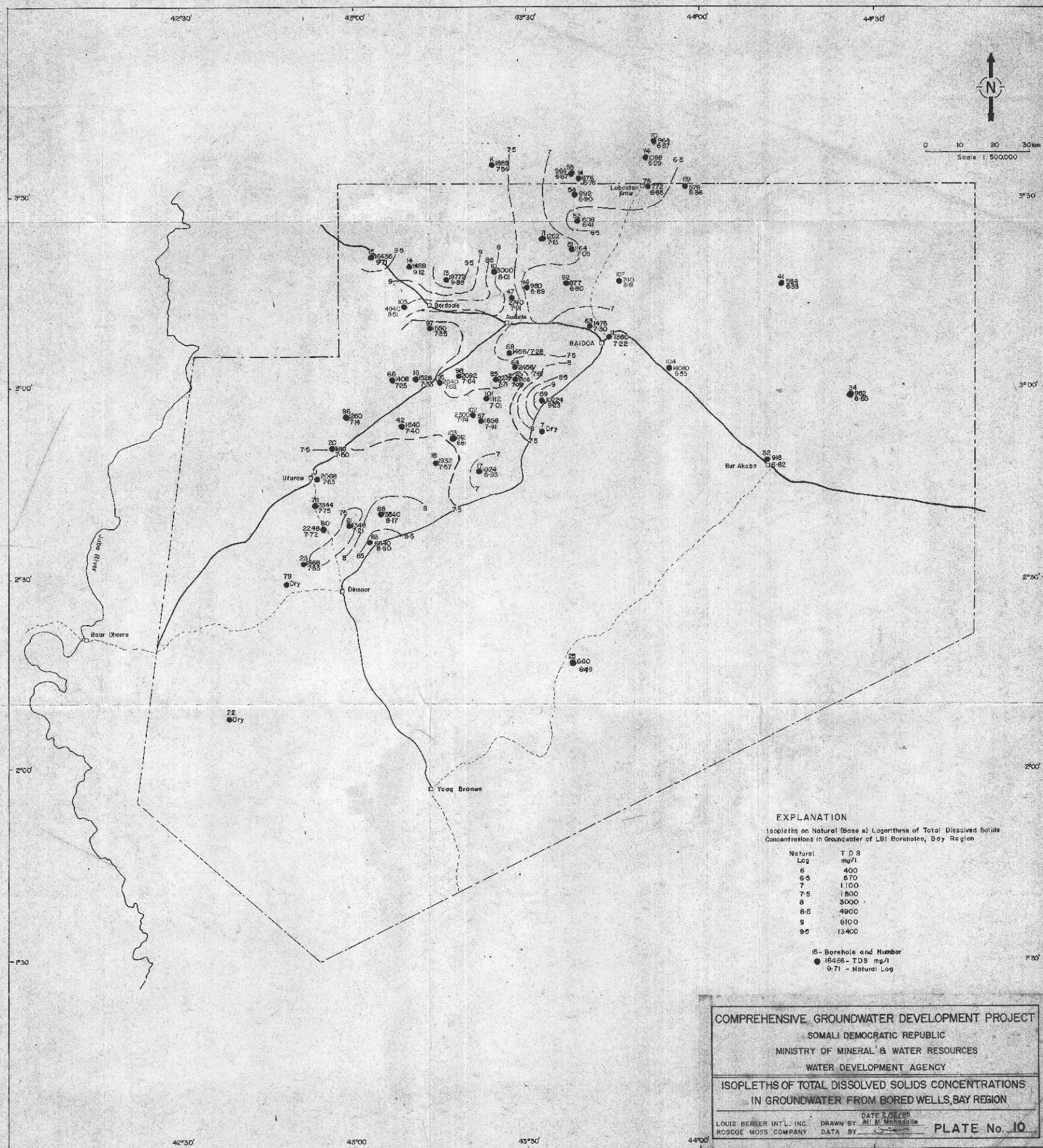
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PLATE No. 5

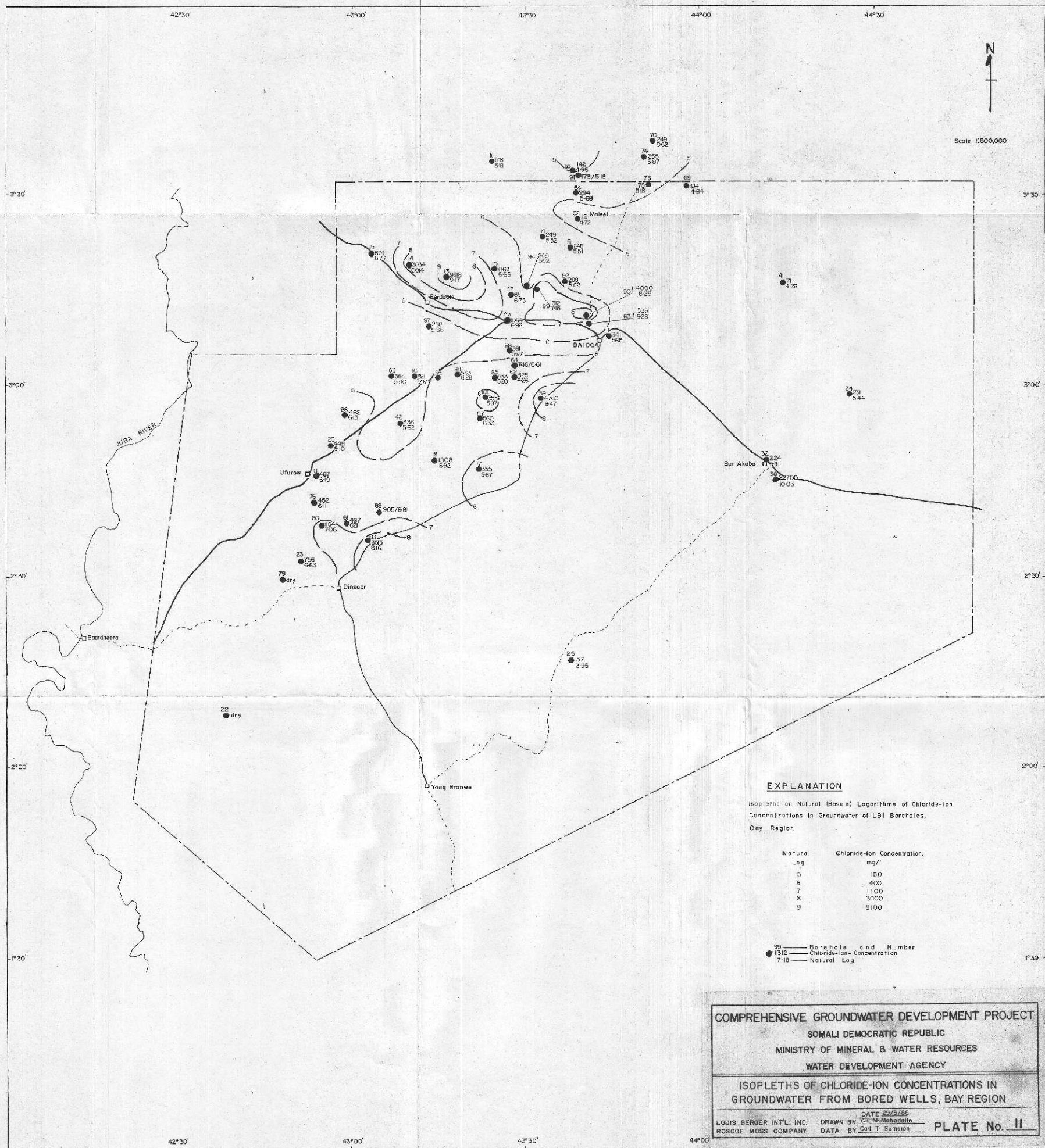


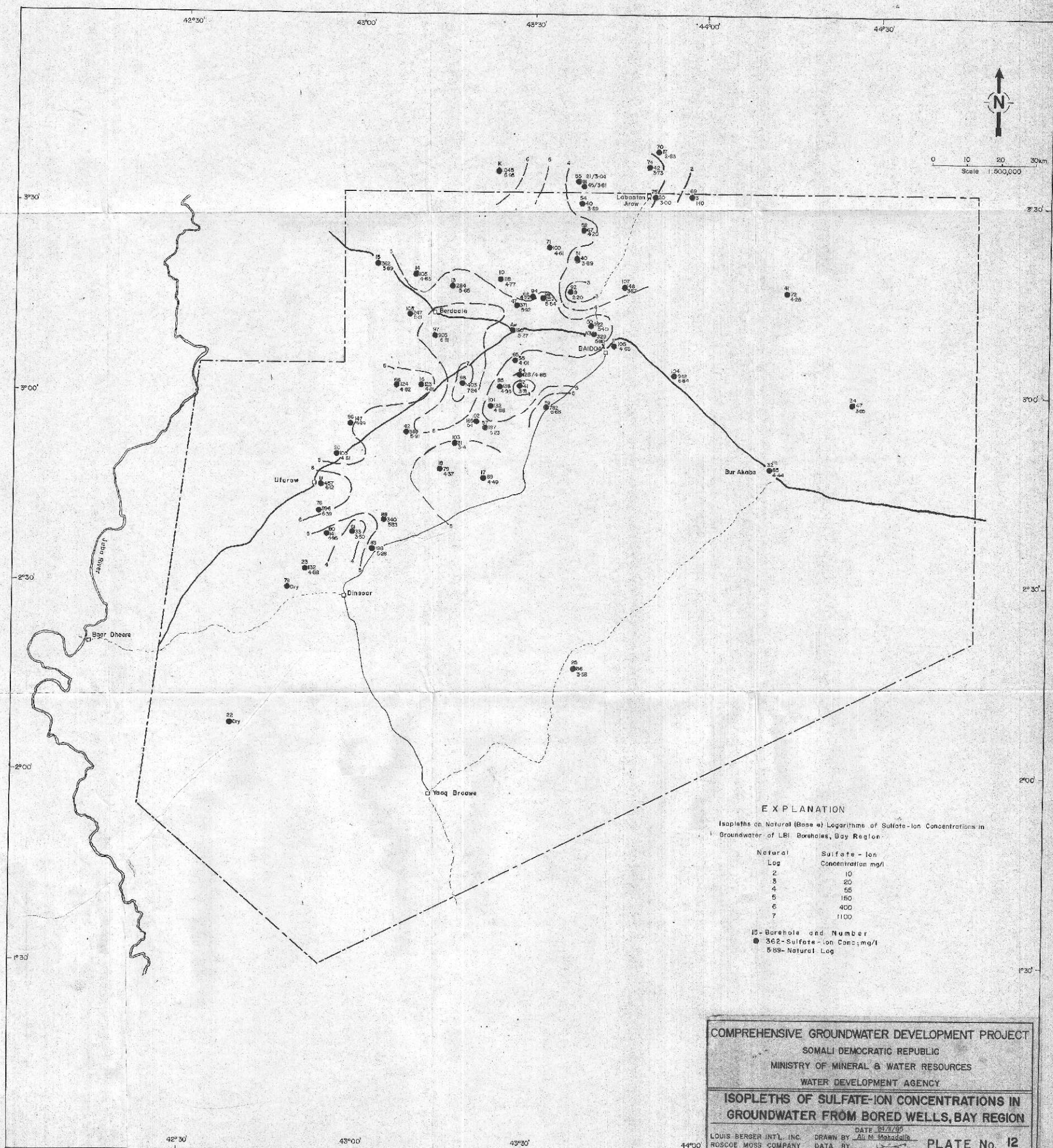


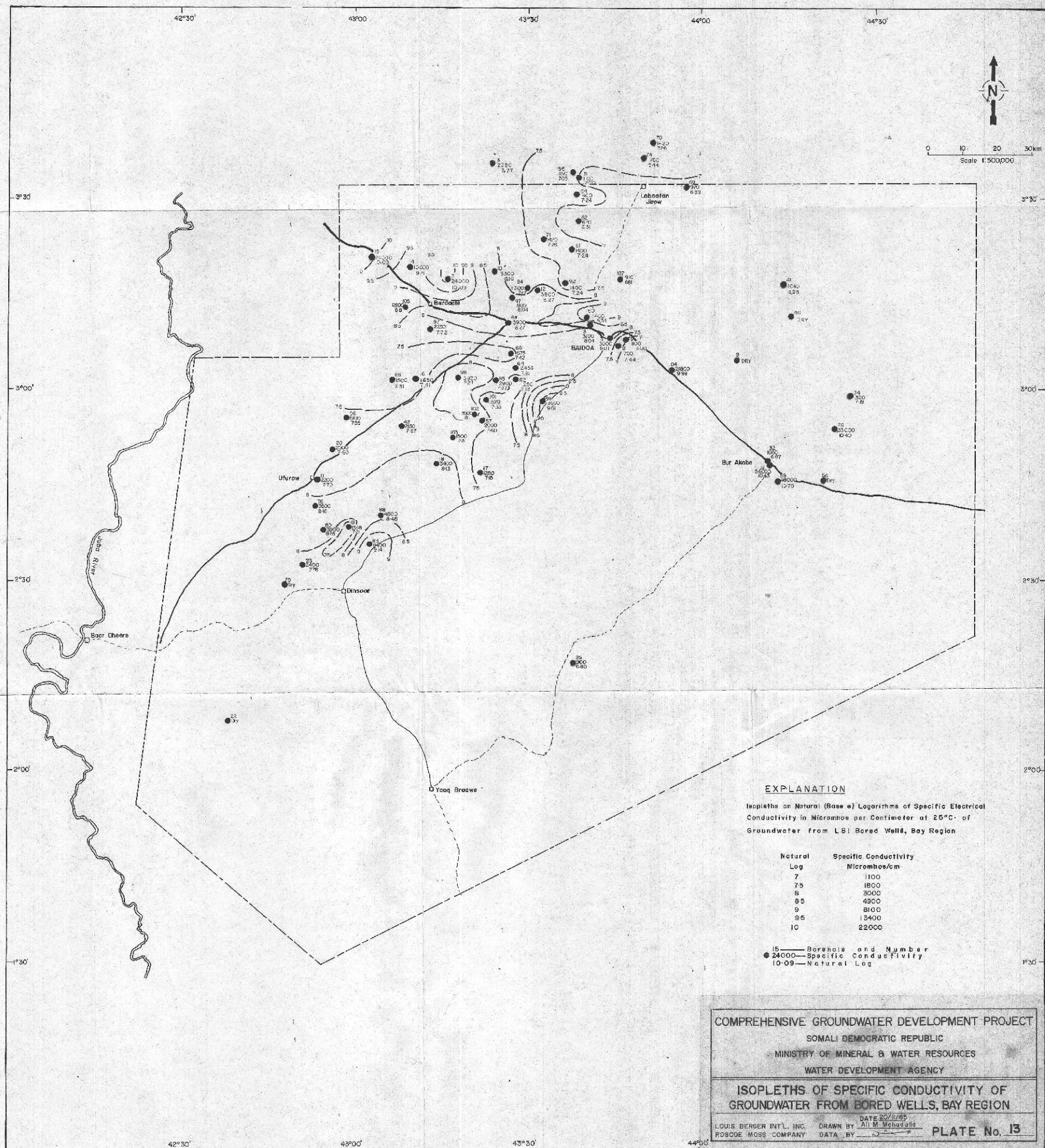


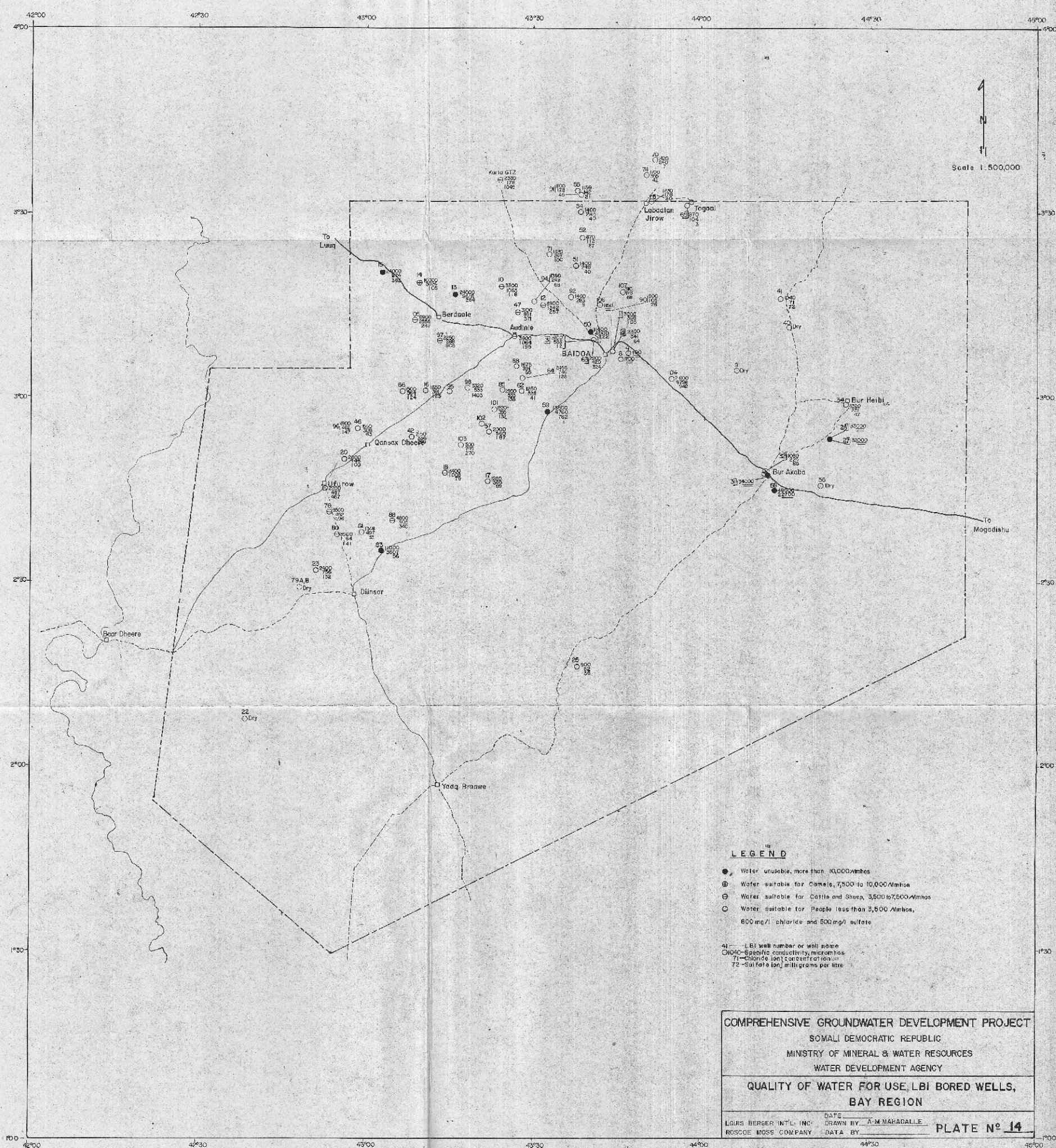


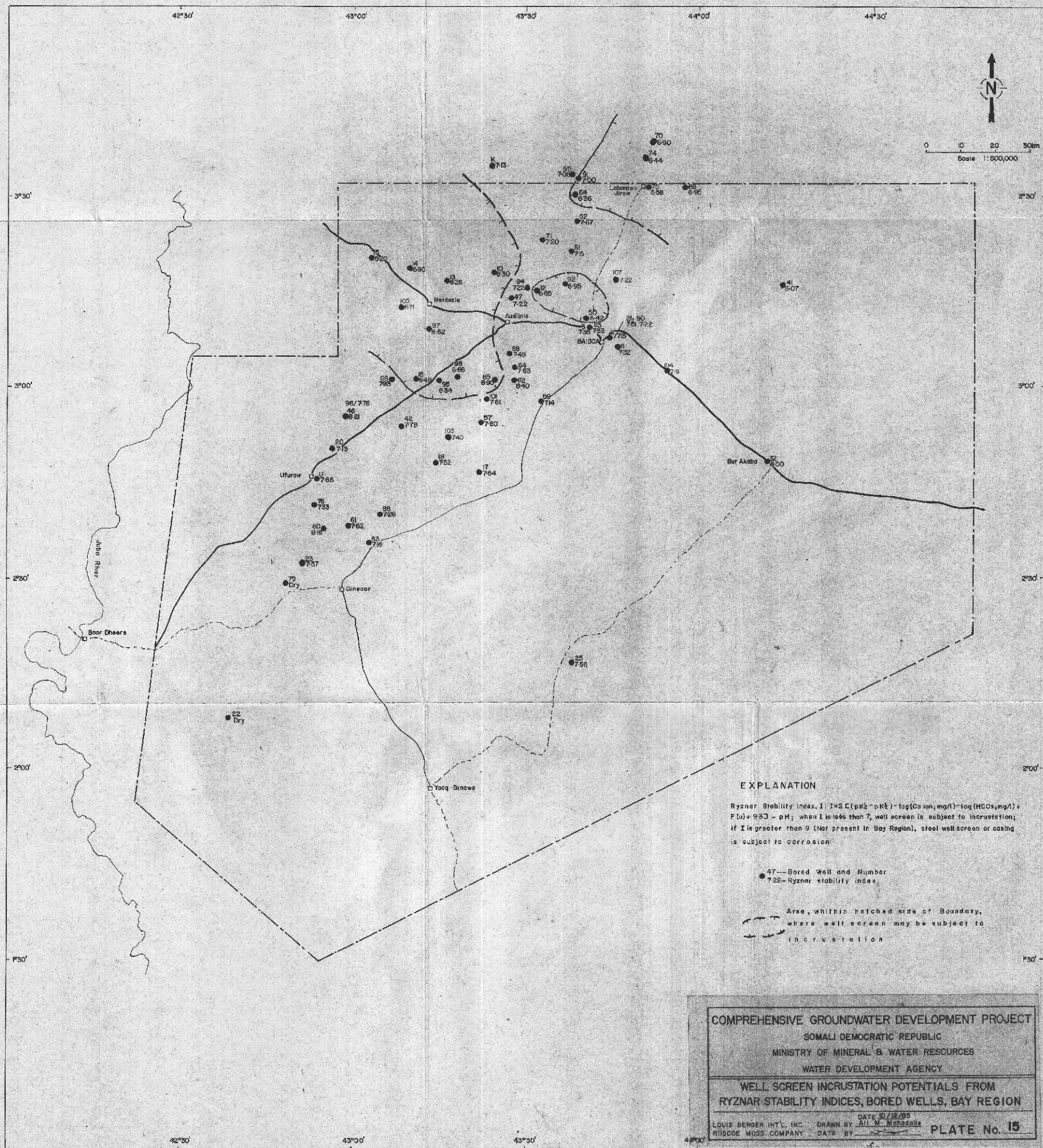


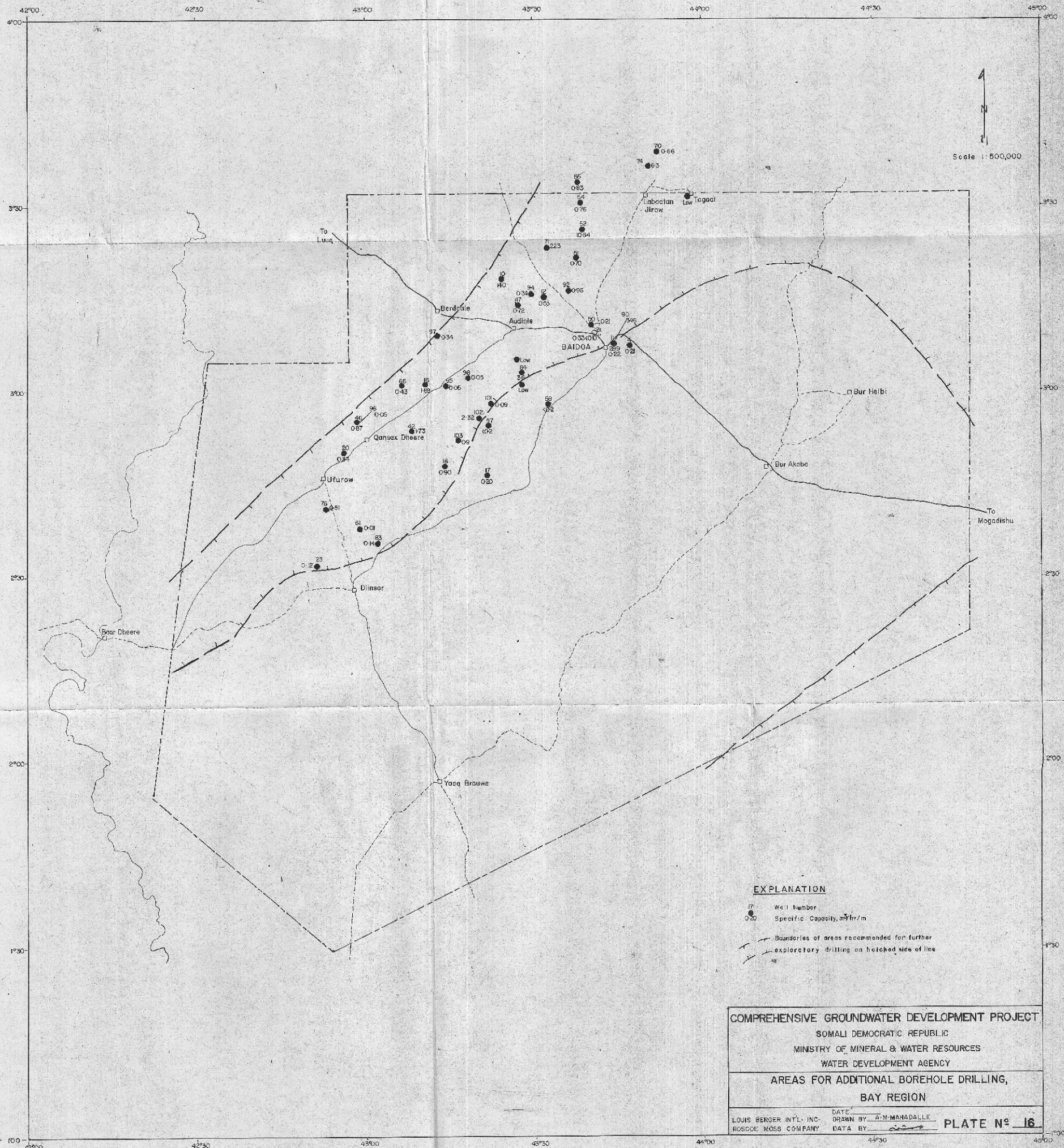












LEGEND

Quaternary (undifferentiated) Qal, Alluvial sediments of Sababli River sand, gravel and sand loam

Pliocene-Quaternary Qeol + m Eolian and marine coastal deposits dunes, sand bars and reef deposits

Miocene Nmd - Mudug Merca suite undifferentiated limestone, sand, sandstone, marl, gypsum

Nmd - Lower member Mudug Merca suite sandstone, marl, limestone, gypsum, clay

Paleogene- Early Neogene Pa-n - Basalt in the basin of Sababli River "Trap series,"

Pg-or - Auradu limestone - massive limestone

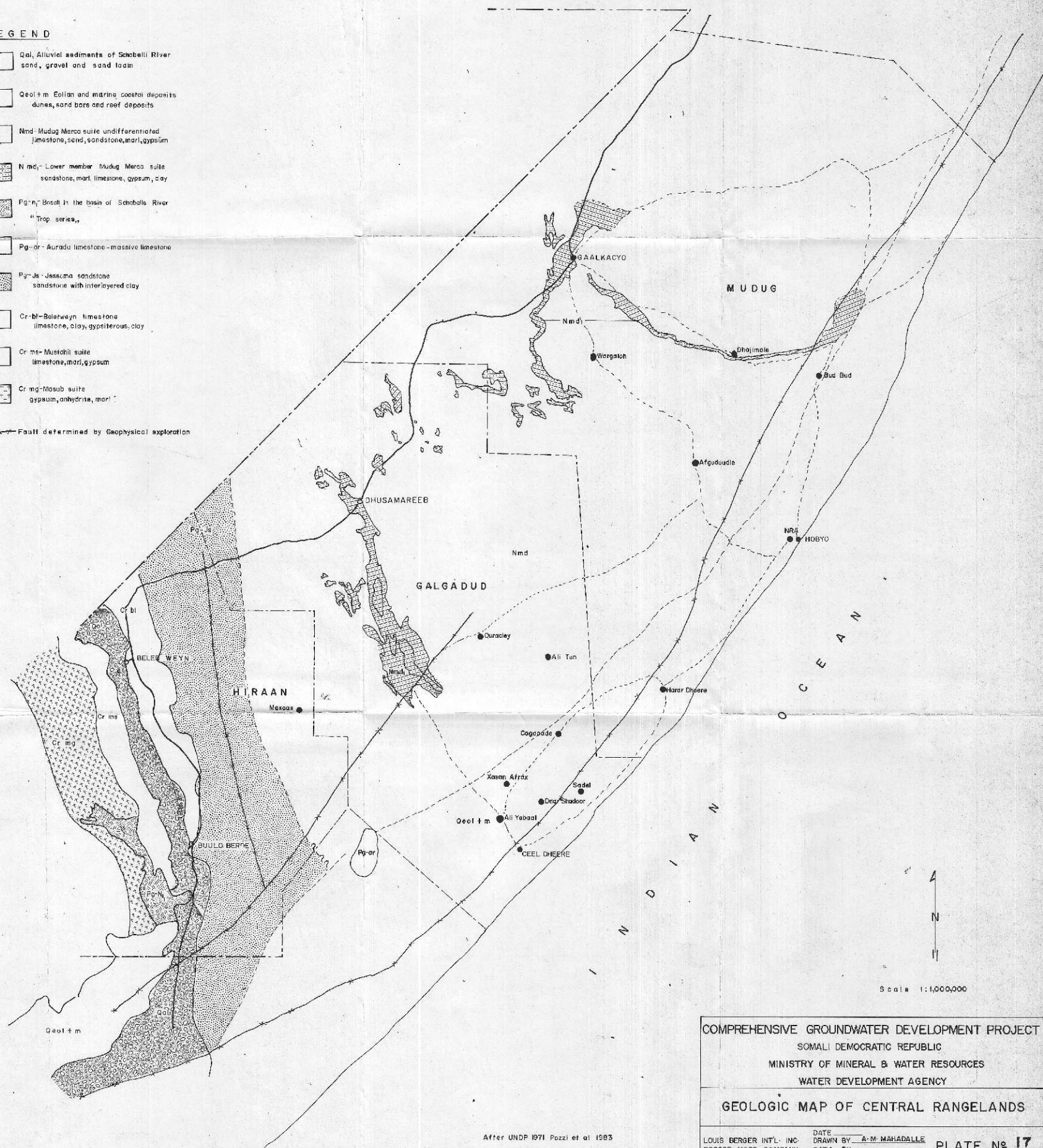
Paleocene Py-js - Jessima sandstone sandstone with interlayered clay

Late Cretaceous Cr-bl - Balaweyn limestone limestone, clay, gypsiferous, clay

Early Cretaceous Cr-ms - Mustahil suite limestone, marl, gypsum

Cr-mg - Masab suite gypsum, anhydrite, marl

Fault determined by Geophysical exploration



Scale 1:1,000,000

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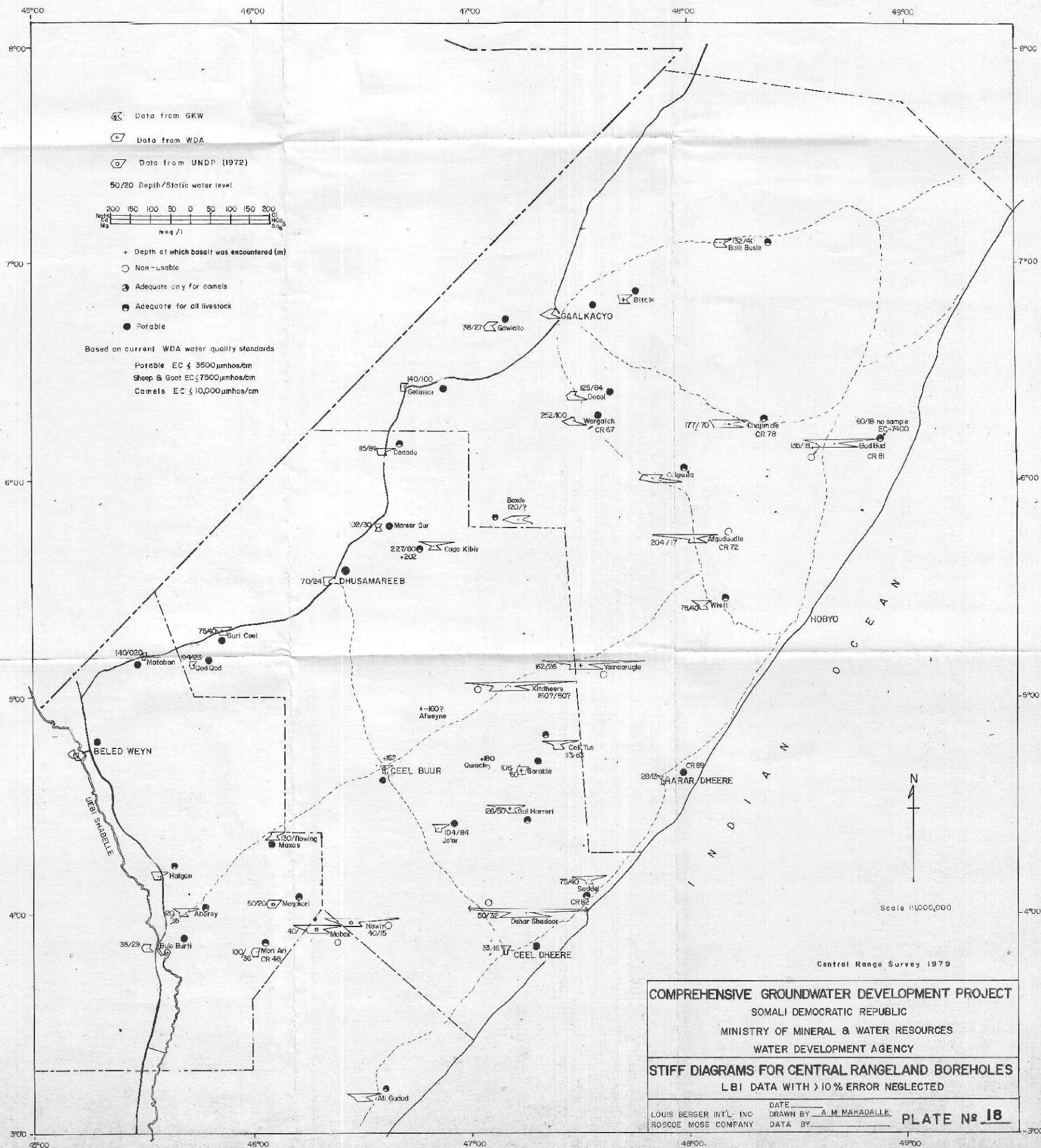
GEOLOGIC MAP OF CENTRAL RANGELANDS

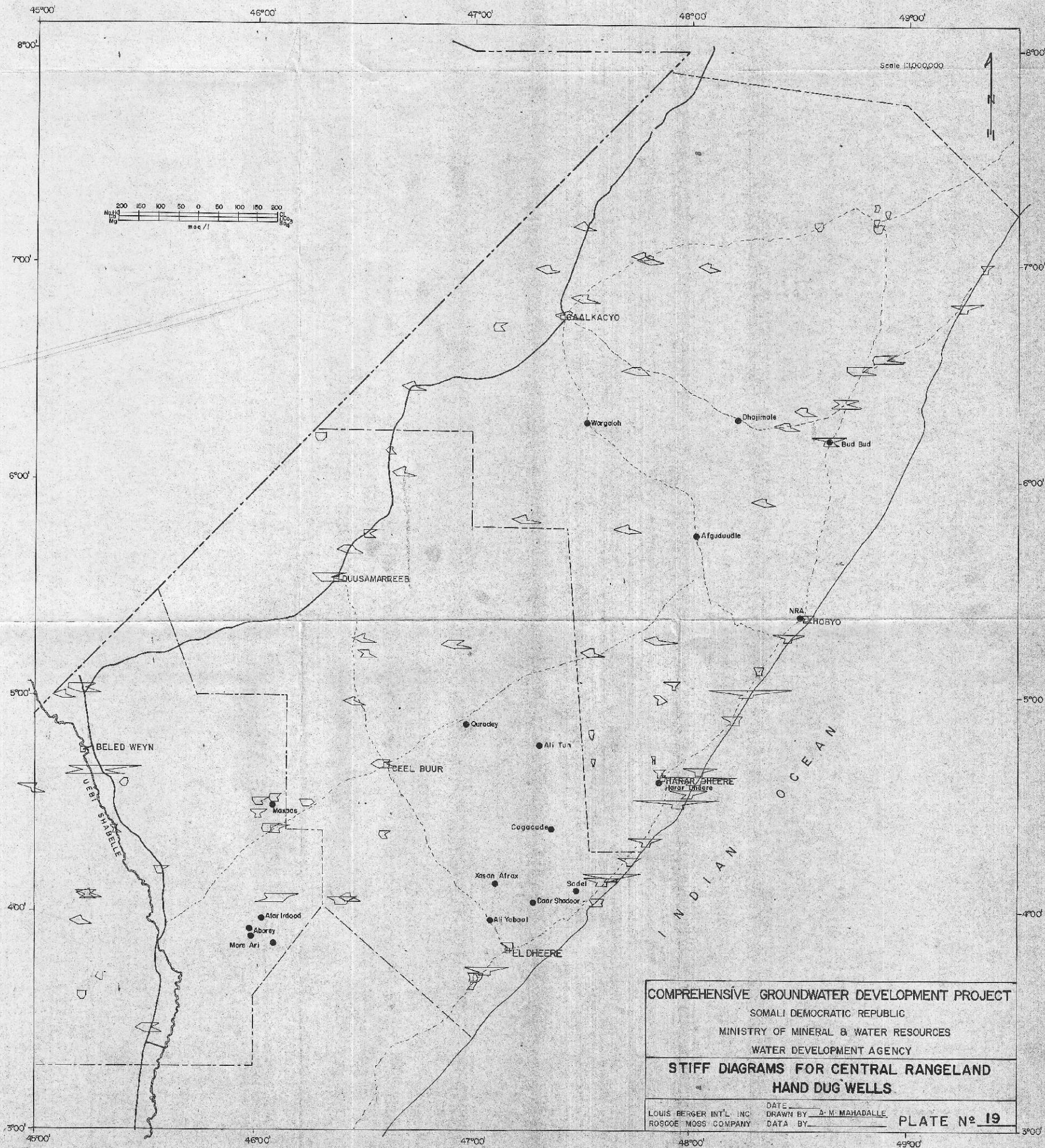
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PLATE No 17

After UNDP 1971 Pozzi et al 1983





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**STIFF DIAGRAMS FOR CENTRAL RANGELAND
HAND DUG WELLS**

LOUIS BERGER INT'L. INC. DATE
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DATA BY:

PLATE No 19